Review

Financial derivatives, global economic crisis and less developed countries (LDCs)

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Financial derivatives have been acclaimed as the greatest innovation of the 20th century. This popularity is not unconnected to their use as risk management tool. It is therefore disconcerting that such instruments meant to manage risks can be blamed for having exacerbated it, to the extent of causing a global crisis. In the light of the aforementioned, this paper examines the nature and uses of derivatives, assesses the role it played in the global financial crisis, investigates if the presence of derivatives in the financial market was sufficient condition to cause the crisis and examines the impact of the crisis on less developed countries (LDCs). Findings reveal that the crisis had serious debilitating effect on LDCs and that though derivatives triggered the crisis, certain fundamental and systemic defects of capitalism actually predisposed the world economy to it. Tying executive bonuses to long run performance, separating investment and commercial banking and insisting that derivatives be traded only in recognized exchanges were recommended to forestall reoccurrence of this type of crisis.

Key words: Derivatives, regulations, economic crisis, mortgage default, futures, swap, hedging.

INTRODUCTION

For many years, the world’s economy experienced an unprecedented growth, especially among developed and emerging economies. This was before the tumultuous events in the subprime mortgage market in the United States of America (US). A 3% rise in seriously delinquent loans, from 6 to 9% between the second quarter of 2006 and second quarter of 2007, has not only brought the US economy to its knees but has reverberated in other economies. (Dodd, 2007: 15).

This event which began as mortgage defaults in the US eventually transcended into a financial crisis affecting mostly developed economies with financial linkages with the US. Today, the financial crisis has bludgeoned into an economic crisis of momentous and global proportions. The crisis has spread from the developed economies to emerging ones and even to less developed ones like Nigeria’s.

The immediate consequence of the crisis is loss of confidence in the financial system. This led to a run on several banks in many countries hastening the collapse of some of them. There are also reports of bankruptcy of large banks, non-bank financial institutions, corporations and decline in most capital markets (Shah, 2009). Showing the severity of the crisis Raja (2008) indicated that by October, 2009 the world is estimated to have suffered $2.8 trillion credit loss. Also, about $14.5 trillion or 33% of value of world’s companies had been wiped out. United States and United Kingdom are said to have spent $9.7 and $2 trillion in bailouts. In Nigeria, despite initial denial by the authorities, the effect of the global economic crisis has come home to roost. Its impact can be seen in the declining government revenue from oil, loss of value in the capital market, liquidity crisis in the financial sector and loss of confidence in the banking system.

Having seen how severe the current global meltdown was, it is expedient to trace its origin and identify possible cause(s) and its impact on less developed countries (LDCs), objectives which this paper is set to achieve. To do this, certain pertinent questions need answers;

1. What are derivatives?
2. What are these products used for?
3. How were they employed in the US mortgage market?
4. What link, if any, exist between them and the current global crisis?
5. How did mortgage defaults in the US become a global problem?
6. Could this crisis have happened without the innovation of this product?
7. What are the implications of the crisis for LDCs?

**DERIVATIVES: AN EXPOSÉ**

In the words of Fischer and Jordan (2005: 404) derivatives are financial instruments that derive their value from underlying securities. In Panjır’s (2001: 2) opinion, derivatives are securities derived from real or financial assets or from liabilities. Explaining derivatives, Bodie et al. (2006) drew a contrast between these instruments and primitive securities. They opined that while primitive securities offered returns based only on the status of the issuer, derivatives on the other hand yield returns that are dependent on additional factors pertaining to prices of other assets.

There are many types of derivatives. Bodie et al. (2006) writing on this put the number of types of derivatives at over one thousand two hundred (1200). Broadly speaking though, derivatives can be categorized mainly into two classes: Options type contracts and forward type contracts. While option type contracts give buyers the right, but not the obligation to buy or sell an asset at a preset price over a specified period, the forward contracts (futures and swaps) commit the buyer and seller to trade a given asset at a set price on a future date (Bodie et al., 2006).

Various reasons have been offered for the development of derivatives. Some prominent ones are that they are used as risk management tools by businesses – hedging. Apart from hedging, derivatives are also induced by the need to evade taxes and avoid certain regulations. The need to satisfy the varying investment requirements of different segments of investors has also been adduced as one of the compelling reasons for innovating derivatives. Unfortunately, the most damaging use which derivatives were eventually put to is speculation (Lange, 2009).

Derivative transactions contractually commit participants without money actually changing hands. This makes them highly leveraged transactions and potentially dangerous. The danger emanates from the financial fact that leverage magnifies the upside gains as well as downside losses. This danger is further compounded by the fact that the derivatives market is basically unregulated. Apart from exchange traded derivatives, most transactions take place over the counter (OTC). For such OTC transactions, there are no standards and no transparency requirements, which made it possible for such parties to hide them as ‘off balance sheet’ items, hence presenting a false financial position to investors. The derivatives market is opaque and suffers from heavy reliance on the quality of participants, attributes which do not augur well with market discipline and public confidence (Lange, 2009).

This lack of transparency, inter-relatedness of transactions (since identity of counter parties need not be disclosed) and volatility of prices (as derivatives are hardly created for assets with stable value), make the derivatives market prone to instability. When such instability occurs, the inter-relatedness of transactions, capital inadequacy in relation to level of leverage, lack of transparency and the loss of confidence, this engenders in the market exacerbate it.

**DERIVATIVES AND GLOBAL ECONOMIC CRISIS: ANY LINK?**

Accusing a financial product which is fundamentally used to hedge against risk of causing the global financial crisis is mind bugging and paradoxical. To properly assess the situation, it is auspicious we examine the operations of the US subprime mortgage market where the crisis is said to have started.

Normally, banks make loans to customers who are assessed as low credit risks, that is, customers who have high probability to repay. This requirement is even more compelling in mortgage loans because of their long term nature. Mortgage loans are therefore normally made to customers with high credit rating; such loans are otherwise known as conforming loans or prime mortgages.

Along the line, in the US, financial institutions began to apply financial engineering to repackage mortgages (prime mortgage) into securities through credit derivatives and collateralized debt obligations (CDOs). This process known as securitization meant that banks could pool their various loans into sellable assets (Jarvis, 2009).

Securitization allows mortgage originators to earn fee income from their underwriting activities without leaving themselves exposed to market, credit or liquidity risks because they sell the loans they make (Dodd, 2007: 16). The ability to securitize loans and sell, thereby extricating themselves from attendant risks, led many banks to even borrow money in order to make loans and securitize them.

According to Davies (2008), as more banks became successful by using securitization, others joined and with time they used this derivative no longer to reduce risks but to take on more risk to make money. As competition intensified and prime mortgages ran out, banks turned to the poor; the subprime or non-conforming and riskier loans, which were also securitized and sold to investors.

It was only a matter of time before the subprime bubble burst and burst it did in August, 2007. As already alluded in the opening section of this paper, this started by a modest 3% increase in delinquent loans. Confidence fell drastically and the market became illiquid. Highly leveraged investors such as hedge funds needed to trade out losing positions and were also faced with margin calls from their prime brokers. The mortgage originators on the
other hand could no longer sell the loans they made and as most of them were thinly capitalized, they failed and filed for bankruptcy protection. With these interlocking transactions and vicious cycle, the subprime market froze (Dodd, 2007: 18).

At this stage, one would begin to wonder how the subprime mortgage crisis depicted previously which should be a US problem became global. The explanation to this lies on the globalization and internationalization of finance, capital and investment. Banks especially of developed and emerging markets are closely linked through offshore branches and correspondent relationships. Many of them through this connections participated in the then booming US mortgage sector. Institutional investors like hedge funds of other countries also participated actively in the subprime market. So when the bubble burst, the banks and other institutional investors in these countries that were exposed to the US subprime market were among the first casualties. This was further compounded as depositors could not confirm the exposure of their financial institutions to this market, because of its lack of transparency, began to massively withdraw their deposits. As confidence declined, bank runs ensued in some of these economies with close linkages with US economy (Picker, 2008: 1).

Further deterioration of confidence in the financial system made investors withhold their funds and offload their investment causing the capital markets to decline. The banks on their own part reacted to this by withholding credit to one another as they could not ascertain each other’s financial position, especially exposure to the subprime market. With this, liquidity crisis ensued and even corporations that needed funds from the financial market could not access such, extending the crisis to the real sector and causing some big corporations to collapse or file for bankruptcy (Mian and Sufi, 2008).

WOULD THE CRISIS HAVE HAPPENED ANYWAY?

In order to address a problem like the global financial crisis, it is usually good approach to unearth its roots. Subsequently in the study, we were able to establish the link between financial derivatives and the crisis. Here, whether the global financial crisis would have ensued in the absence of financial derivatives is to be examined.

To assess the role derivatives played in the crisis, we will try to ascertain two facts; would the crisis have happened without the invention of these products and did derivatives play any part in making the crisis a global phenomenon?

Examining the posers aforementioned, it is clear from “Derivatives and global economic crisis: Any link?” that the subprime mortgage crisis in the US was triggered by the use of derivatives and that the investment in securitized subprime loans helped take it to developed economies. These might not be enough to conclude that derivatives are wholly to blame for causing the global financial crisis. This is because a closer look at the global financial architecture reveals certain fundamental weakness that allowed the crisis to happen.

Stiglitz (2009a) and Davies (2008) posit that derivatives did not cause the financial meltdown but rather accelerated it once the subprime mortgage sector collapsed. They pointed out that lending to subprime customers should not have arisen if proper regulations were implemented. The International Monetary Fund (IMF) Managing Director concurred when he opined that the financial crisis should be blamed on regulatory failure to guard against excessive risk taking in the financial system (Strauss-Khan, 2008). Furthermore, Karam (2008) stated “to enrich a few has bankrupted many, not because of the irrationality of the borrower, but mainly because of the totally unregulated economy which permitted unfettered socially destructive behaviour”.

Stiglitz (2009a) further argues that the crisis can be blamed on certain incongruences of unfettered capitalism. He pointed out that the markets were bound to fail in properly pricing assets due to poorly designed incentive systems, inadequate competition and inadequate transparency. He further emphasized that as long as risky behaviour by managers is rewarded and their performance assessed by short term profits then highly leveraged transactions will continue to be the order of the day. Also indicted in this skewed incentive system is the use of stock options and bonuses to remunerate top executives of companies as this predisposes them to insider dealings and other moral hazards.

In the same vein, Patnaik (2009) indicated what he called a “fundamental defect of the free market system regarding its capacity to distinguish between enterprise and speculation”. This tendency he said opens it up to be dominated by speculators not interested in long-term yield assets but in short term appreciation of asset values. With speculators always looking for weakness to exploit for gain, poor regulation allowed them engage in excessively leveraged investments with attendant consequences. Taleb (2009) blamed the crisis on “a system heavily grounded in bad theories, bad statistics, misunderstanding of probability and ultimately greed”. For Taleb therefore, the global economic crisis was a systemic time bomb waiting to explode. As long as these systemic inadequacies remained, it was only a matter of time before something ignited a crisis.

From the foregoing, it can be deduced that as long as there are fundamental defects in the system with or without derivatives, the crisis would have happened, maybe not when it happened. A system which rewarded and encouraged risky behaviour was bound to collapse in the long run. Also, as long as unfettered capitalism is operated, powerful individuals and businesses will
capitalize on this lack of regulations to profit against the wider interest of the society, which is unsustainable.

On whether the crisis would have gone global, evidence suggest that without derivatives such a crisis can still go global. This is because of globalization and internationalization of finance, which of course preceded the innovation of financial derivatives. Stiglitz (2009b) opines “this crisis raises fundamental questions about globalization, which was supposed to help diffuse risk. Instead, it has enabled America’s failure to spread around the world, like a contagious disease”. Previous crisis like the Asian financial crisis of the 1990s were not linked to derivatives but the contagion still spread globally. This point can be further buttressed by the impact of this crisis on LDCs most of which are not participants in the derivatives markets.

We therefore conclude that the global financial crisis is a product of a flawed system- unfettered capitalism. A system which insists on minimal government intervention and shamelessly calls for government intervention (bailout) when it is in trouble is not only unjust but unsustainable. This injustice can be seen in corporations and banks keeping their profits to themselves in good times, only to expect all tax payers to participate in their troubles. That is, “the privatization of profit and socialization of losses”. As long as proper regulations are not implemented, human greed will continue to propel activities in financial markets, so with or without derivatives, unbridled drive for profit will eventually overheat the system and cause a crisis. With the linkages between economies occasioned by globalization, any such crisis will easily reach beyond domestic markets. This is why the financial crisis which started as subprime mortgage crisis in the US spread throughout the globe (Picker, 2008: 1). Derivatives may have triggered the current global financial crisis but fundamental defects in the system allowed this to happen.

IMPLICATIONS OF THE CRISIS FOR LDCs

As the inter-linked developed economies and emerging markets were suffering the effects of this crisis, it was believed in certain quarters that the crisis will be confined there. Less developed countries (LDCs) like Nigeria’s were thought immune to it. This thinking did not consider the extent of foreign portfolio investment in many LDCs. In Nigeria for instance, market capitalization fell by 45.8% in 2008 (Nigerian Stock Exchange, 2009). Buttressing this, Ajakaiye and Fakiyesi (2009: 7) noted that between March 2008 and March 2009, market capitalization had further fallen by 62%. This is indicative of the extent of shock suffered by many LDCs’ stock markets considering that the Nigerian stock market had grown by 74.7% in 2007 before the onset of the crisis (Okereke-Onyiuke, 2009, Nigerian Stock Exchange, 2009). With the credit crunch in their home countries and the fear of the contagion spreading to the LDCs, foreign investors massively withdrew their investments from them.

Most of these countries (LDCs) also rely on export of commodities and minerals to the developed ones for revenue. The crisis in the developed countries caused them to reduce imports of these goods in the international market causing a reduction of revenue for exporting LDCs. This manifested clearly in the drastic reduction in the price of crude from $147 per barrel in 2007 to $47 in January 2009 (Ajakaiye and Fakiyesi, 2009: 7).

Other channels through which the crisis reached the LDCs were through reductions in foreign aids and diaspora remittances. The remittances by Nigerian's working abroad was on the increase until the last quarter of 2008 when unemployment in most developed economies hit by the crisis soared (CBN, 2009). This remittances reduction had implications for the standard of living of many house-holds and small scale businesses which rely on them.

Financial institutions especially the banks were not spared the consequences of the crisis. Many of them lent huge amounts to Brokers for trading in the capital market and when the market crumbled in the wake of the crisis they found themselves saddled with large portfolios of non-performing loans (CBN, 2008; SouthCenter, 2009). This did not only lead to a tremendous loss of value for these banks but their situation was so precarious that the Central Bank of Nigeria (CBN) had to remove the Chief Executives Officers of eight of them and inject over N600 billion to bail them out. Inspite of this, three of them had to be taken over by the CBN in July, 2011 as they failed to recover from the effects of the crisis.

The effects of the crisis for most LDCs were far reaching as it generally led to contraction of credit by banks and reduction of revenue for governments. The contraction of credit and reduction of remittances caused income levels to drop, leading to reduction in aggregate demand, decline in production output and unemployment. On the other hand, governments faced by revenue constraints had to adopt tight fiscal policies to survive. This meant budget cuts for vital social services like health and education and cancellation of developmental projects such as roads and power plants.

THE WAY FORWARD

Having identified some of the weaknesses that caused the global financial crisis and the impact of the crisis on LDCs previously, here, solutions will be proffer. The aim of which is to forestall reoccurrence of financial crisis of the magnitude presently been experienced. To do this, some areas that need urgent attention are;

1. There is need to review global financial architecture
Nigeria have taken heed and reverted to status quo. There is need to return to the era when investment leverage transactions should be discouraged. Financial institutions should be made to have capital commensurate with the risks they carry and highly transparent exchange trading. The products will therefore be registered and regulated like other exchange traded securities.

3. Financial institutions should be made to have capital commensurate with the risks they carry and highly leverage transactions should be discouraged.
4. There is need to return to the era when investment banking was separated from commercial banking. This will reduce issues of moral hazards and insider dealings prevalent in the current practice of universal banking. It is encouraging to note that the regulatory authorities in Nigeria have taken heed and reverted to status quo.
5. The crisis has shown that the belief that markets are efficient and self-adjusting is fallacious; governments should therefore intervene appropriately to forestall such market failure.
6. Corporate incentive system has to be revisited. A system as it is presently that remunerates and encourages risk taking will only lead to a reoccurrence of similar crisis in the future. Corporate incentives should therefore be aligned with long-term profitability and not short term gains.
7. More stringent regulatory attention should be paid the derivatives market. The quality of participants must be addressed and attention must also be paid to the quality of assets traded in this market, especially those to be securitized.
8. Action should be taken to ensure that credit, market and liquidity risks of loans remain with their originators. This will force them to be more circumspective in the loans they make.
9. Regulatory authorities should show more interest in operations of OTC markets in their various jurisdictions. They should monitor participants; the nature of securities traded, and ensures full disclosure of the activities engaged in at the OTC markets in companies’ financial reports.

REFERENCES